E. Response to Ad Hoc Users

The criticisms of the macroeconomic analysis in the Godwins Report presented
in The Opposition of the Ad Hoc Telecommunications Users Committee to Direct
Cases is simply a summary of criticisms made in a report prepared by Economics
and Technology, Inc. (ETI) for the International Communications Association. To
avoid repetition, we will not separately respond to the Opposition of the Ad Hoc
Telecommunications Users Committee report, and to the ETI report. Instead, we
will respond only to the ETI report. Responding to the ETI report presents a
special challenge. Unlike the oppositions filed by AT&T, MCI, and the remainder
of the Ad Hoc Users filing, the report submitted by ETI is unprofessional in both
its tone and its substance. When reading the assertions that appear instead of
reasoned economic analysis, one wonders why ETI chose to write the report this
way. Was it the result of an inability to understand the economic analysis in
the Godwins Report, or was it the result of a deliberate attempt to misrepresent
and distort the report? Regardless of the reason, ETI's reckless assertions have
been entered into the record, so it is necessary to set them straight.

ETI asserts on page 13 of its report that the Godwins Report contains at
least six fatal flaws. The first alleged fatal flaw deals with the role of
calibration, and the remaining five alleged fatal flaws are numbered 1 - 5 on
page 15 of the ETI report.

ETI Contention -   "In the Godwins model, the key numbers which determine the
(Page 14)   results are simply invented. They are made up. ... A quote
                       from Appendix C-5 of the Godwins Report illustrates the
                       process:

                           The model is *calibrated* so that in the absence of
                           FAS-106 it yields an allocation of labor across
                           sectors...It is also *calibrated* such that in the
                           absence of FAS-106, all nominal prices are equal to
                           one." [emphasis added by ETI]

Response -   Several comments are in order. First, let's look at what
ETI omitted from the quoted passage from the Godwins Report
where the ellipsis appears after "labor across sectors."
The following words were left out: "that matches the actual
allocation of labor across sectors." [emphasis added] Now
why were these nine words omitted by ETI? Certainly not
because they took up too much extra space. And certainly
not because these nine words were not germane to the point
ETI was trying to make. Quite the contrary--these nine
words indicate that the numbers were not made up or
invented; the numerical values of the parameters were
chosen so that the share of workers eligibl- for SFAS 106
benefits in the model would equal the actual share in the
U.S. economy. That is, these nine words prove the opposite
of ETI's assertion, and ETI simply chose to suppress them.

Second, the passage quoted from the Godwins Report states
that in the initial equilibrium, before the introduction of
SFAS 106, all nominal prices are set equal to one. It
seems that the authors of the ETI report regard this as an
invented number. However, there is a difference between a
price index and the price of a specific good measured in
local currency. GNP-PI is a price index, and like all
indexes, a single specific numerical value of the index is
meaningless, unless the scale or base is specified. The
value of an index in a base year is entirely arbitrary, and
to make the interpretation of the numbers simple, the price
indexes were normalized so that the price index in the
initial situation had a value of one. The concept of
normalization should be familiar to anyone with graduate
training in economics, and there is no meaningful sense in
which normalization should be interpreted as "inventing
numbers."

Third, ETI italicizes the word "calibrated" twice in the quoted passage, as if to emphasize that "calibrated" means "invented" or "made up." The problem is that the authors of the ETI report do not appear to know what calibration is. They ask the question on page 14: "What is this calibration?" Then they assert that calibration does not involve real economic data, and they cite as proof the fact that the term calibration is not used in standard econometrics textbooks. The problem is that the authors looked in the wrong place to find out about calibration. The right place to look is in the macroeconomics literature, in particular the burgeoning literature on quantitative general equilibrium macroeconomic models. An influential paper that uses calibration and is already becoming a classic in this literature is Edward C. Prescott's "Theory Ahead of Business Cycle Measurement," Quarterly Review, Federal Reserve Bank of Minneapolis, Fall 1986, pp. 9-22. Calibration is at the frontier of quantitative macroeconomics and has not yet filtered into many undergraduate textbooks. However, calibration is described in Chapter 11 of Macroeconomics by Andrew B. Abel and Ben S. Bernanke, Addison-Wesley Publishing Co., 1992, a book co-authored by one of the authors of the Godwins Report and used at dozens of leading colleges and universities.

Calibration is an alternative method to direct econometric estimation for choosing numerical values of parameters in a macroeconomic model. In calibrated models, numerical values may be based on econometric estimation of microeconomic data and/or they may be chosen so that variables in the model match actual values of real economic data. Both of these techniques were used in the model in the Godwins Report. For instance, the parameters of the

production functions were calibrated so that the share of labor cost in total cost matched the actual share of labor in total cost in the U.S. economy. Contrary to the assertion in the first paragraph on page 14 of the ETI report ["Another key factor, the labor supply elasticity, the response of labor supplied to real wage changes, is assumed to be 0.00, again a number simply invented for the purposes of their report."], the value of the labor supply elasticity was based on a multitude of econometric studies. The first complete paragraph on page 30 of the Godwins Report discusses the summary by Mark R. Killingsworth of the extensive econometric literature on the elasticity of labor supply. Each of the many studies finds different numerical values for this elasticity, and it seems pointless to try to pick one of the estimates in one of the studies. It is even more pointless to econometrically estimate this elasticity independently, given the multitude of existing estimates. The sensible approach is to observe that the estimates tend to show a small, even slightly negative, elasticity. Because the impact of SFAS 106 on the GNP-PI is larger for higher labor supply elasticities, a value of 0.0 was chosen so as not to understate the impact on GNP-PI. Furthermore, the sensitivity analysis explored the effect of even higher values of this elasticity.

It should be acknowledged that the value of one parameter, the price elasticity of demand, was not directly calibrated from a specific set of data or a specific set of econometric studies. The value of this parameter was chosen by observing that econometric studies of the demands for various goods tend to find price elasticities of demand on the order of one, or smaller. For instance, the ETI report on page 16 cites a price elasticity of demand of 0.723 for interstate switched access in a study by

J. Gatto, et. al. of AT&T. Because price elasticities of demand tend to be smaller for broader categories of goods, the price elasticities of demand for sectors 1 and 2 in the Godwins model (which account for about 2/3 and 1/3 of private sector output, respectively) are most likely smaller than one. The baseline calculation used an elasticity of 1.5 because experimentation with the model indicated that the effect of SFAS 106 on GNP-PI is (1) not very sensitive to the price elasticity of demand, and (2) higher for higher values of the price elasticity of demand. Therefore, to provide a cushion against understating the effects on GNP-PI, the value of the price elasticity of demand was purposely set higher than the likely true value of this elasticity.

The ETI report complains that only "after much evasion" (p. 14) did the May, 1992 Godwins Response to Paragraph 16 of the FCC Order of Investigation and Suspension admit that its model is not econometrically estimated. The first paragraph of the May Response states that the original Godwins Report contained enough information so that a well-trained professional economist could reproduce the numerical results of the macroeconomic model. The second paragraph begins by pointing out that it would be helpful to contrast the model in the Godwins Report with conventional large-scale short-run econometric forecasting models. This is clearly not evasive.

Having addressed the ETI report's misrepresentation of calibration, we now discuss the five numbered alleged flaws.

ETI Contention -
(Page 16)

"Godwins choose (sic) the wrong kind of model to evaluate the effects of FAS 106."

Response -

According to ETI, a large-scale commercial econometric model would have been preferable to a classical general equilibrium model for the purpose of analyzing the impact of SFAS 106. The May, 1992 Godwins Response to Paragraph 16 of the FCC Order of Investigation and Suspension has already addressed in detail the choice of a classical general equilibrium model rather than a large-scale commercial econometric forecasting model. ETI has already complained on page 14 that that response contained "duplication of material from the February report" so that discussion will not be repeated here. It should be noted, however, that the Godwins Report listed five desirable criteria for a model to use in addressing the impact of SFAS 106. The classical general equilibrium model used in the Godwins Report meets all five of these criteria, but as pointed out in the Godwins Response to Paragraph 16, large-scale commercial econometric forecasting models fail to meet at least two of these criteria.

ETI's discussion on pages 16-18 adds nothing of substance to the issue of choosing an appropriate type of model. The distinction drawn on page 16 between mathematical models and models explicitly designed to be estimated with actual data again reveals the authors' ignorance of the burgeoning macroeconomic literature on quantitative general equilibrium models. (See especially the sentence on page 16: "They are designed and studied to investigate a concept qualitatively *not quantitatively.*" [italics in original]). The authors waste a few paragraphs on pages 17 and 18 deriding the monopolistic competition in the Blanchard-Kiyotaki model. Apparently they have failed to realize that monopolistic competition is one aspect of the

Blanchard-Kiyotaki model that is not present in the adaptation of this model used in the Godwins Report.

ETI Contention -
(Page 18)

"The key numerical parameters of the model are invented by Godwins and not estimated from any economic database."

Response -

There is nothing new in this false assertion that has not already been addressed in this Supplemental Report. All of this material in this false assertion is a repetition based on the ignorance of calibration by the authors of the ETI Report.

ETI Contention -
(Page 19)

"The Godwins model erroneously assumes that workers do not evaluate the value from post-retirement benefits and that employers do not view these benefits as current costs."

Response -

Page 19 of the ETI report states "The fundamental Godwins assumption is that employers who pay these post-retirement benefits do not now consider them labor costs." This quoted sentence presumably means that the Godwins Report assumes that, in the absence of SFAS 106, employers do not recognize post-retirement benefits as current costs. The reason for this assumption is that the Godwins Report attempted to take a conservative approach wherever possible. In this particular context, conservative means guarding against understating the impact of SFAS 106 on GNP-PI. Equivalently, the approach was to err on the side of overstating the impact on GNP-PI. Now if one argues that in the absence of SFAS 106 employers and employees fully recognize post-retirement benefits, then the introduction of SFAS 106 would have no effect on any prices, and the GNP-PI would be unaffected. Thus, GNP-PI would provide absolutely no recovery to Price Cap LECs who would then be entitled to seek 100% recovery of the increase in costs due to SFAS 106 because Price Cap LECs have not been able to recover these costs in the past.

Godwins

However, to the extent that SFAS 106 formalizes and focuses attention on future post-retirement liabilities, and to the extent that firms carry larger liabilities on their balance sheets and thus face higher costs of borrowing, the introduction of SFAS 106 will lead to an increase in recognized current costs. How large is the increase in costs? As explained above, the conservative approach dictates that we overstate the effect of SFAS 106 on GNP-PI, so for macroeconomic purposes we treat all of the additional SFAS 106 expense as a cost.

ETI Contention -
(Page 20)

"Next, the Godwins model incorrectly uses an outdated functional form to represent the production function for the economy."

Response -

Although the Cobb-Douglas production function was first used more than 60 years ago, it is still widely used in quantitative economic analysis, and one of its major predictions -- that factor shares are constant over time -- seems to hold up well in U.S. data. It is true that during the 1970s there was a flurry of activity to generalize the Cobb-Douglas production function, and this flurry included estimation of the translog production function cited in footnote 48 of the ETI report. The translog production function is considerably more general than the Cobb-Douglas production function, but this added generality comes at a cost. The translog production function has many more parameters to estimate or calibrate, and the quality of aggregate data on inputs may be sufficiently poor to make estimates of these additional parameters unreliable. It is worth noting that when these additional parameters are equal to zero, the translog production function becomes a Cobb-Douglas production function. In practice, estimates of many of these additional parameters have large standard errors and are not significantly different from zero at

-45-

standard confidence levels (see Ernst R. Berndt, The Practice of Econometrics: Classic and Contemporary, Reading Massachusetts: Addison-Wesley Publishing Co., 1990, Table 9.2 p. 473). In addition, the estimated elasticity of substitution between capital and labor, in a four-factor translog production function presented by Berndt on p. 475, is 0.97, which is very close to the elasticity of substitution of 1.0 that is characteristic of the Cobb-Douglas production function.

The ETI report closes its criticism of the use of the Cobb-Douglas production function on page 21 with the sentence, "Although it is not clear how significant the bias is from the use of the Cobb-Douglas model, it is clear that the analysis involves simplified assumptions dating back over 60 years." It is worth noting that not only does the ETI report admit that the significance of the bias is unclear, it does not speculate on the direction of any bias. The only thing that is clear to the authors of the ETI report is that the Cobb-Douglas production function is over 60 years old. Interestingly enough, the source cited in the ETI report states that the translog production function introduced in 1970 is "identical to the production function considered by Heady several decades earlier." (Berndt, p. 458)

Perhaps the best response to the criticism raised by the ETI report is contained in a 1988 book by Zvi Griliches (former Chairman of the Department of Economics at Harvard University, 1984 Vice President of the American Economic Association, 1965 winner of the John Bates Clark Medal for the best economist under the age of 40, and Fellow of the Econometric Society whose distinguished career has been devoted to the study of productivity): "There is also the issue of functional form for the estimated production

Godwins

functions and the associated productivity computations. I could never take this range of issues seriously." (Zvi Griliches, _Technology, Education, and Productivity_, New York: Basil Blackwell Inc., 1988, pp. 306-307.)

ETI Contention - (Page 21)

"Finally, the Godwins Report ignores the usual uncertainty that is associated with survey results measured by calculated standard errors."

Response -

This criticism applies to the actuarial analysis and has been addressed on pp. 10-11 of this Supplemental Report.

Godwins

P. Response to Miscellaneous Comment by MCI

MCI Contention -
(Page 6,
and FN 8)

"If exogenous treatment is afforded to one portion of the compensation package, an asymmetrical relationship will be afforded carriers under price caps. This will allow carriers to offer increased OPEB, for which they would receive exogenous treatment, and decrease other forms of compensation." (footnote 8: In fact, the USTA study itself predicts a similar situation where SFAS-106 costs increase, the wage rate in the economy will fall, offsetting the increase in labor costs associated with SFAS-106.)" .

Response -

Here it is appropriate to comment only on footnote 8.

In the Godwins Report prepared for USTA, the introduction of SFAS 106 leads to a reduction in the wage rate, relative to the wage rate that would have prevailed in the absence of SFAS 106. The fall in the wage rate is _not_ a consequence of "an asymmetrical relationship [that] will be afforded carriers under price caps." The wage rate falls for _all_ firms in the economy, even those firms that do not offer OPEBs covered by SFAS 106. The predicted nationwide fall in the wage rate is a market equilibrium phenomenon reflecting the nationwide fall in the demand for labor at any given wage rate, as explained on page 24 of the Godwins Report. Because the fall in the wage rate is an equilibrium phenomenon, it is beyond the control of any single firm or small group of firms.

Godwins

Appendix A

Calculation of "Standard Error" of Average BLI
(Description of Methodology)

In response to a contention raised by the Ad Hoc Telecommunications Users Committee, we have provided an analysis which was performed to determine whether "the uncertainty that is associated with survey results" could have materially affected the results outlined in the Godwins Report. The methodology employed in that analysis is described below.

The Godwins BLI database is extensive (830 plans in all) and holds data on Plans for 18 million participants out of a universe of 38 million participants. Statistical sampling error should have been minor. Godwins tested this hypothesis by calculating standard errors for the pre-65 and post-65 average BLI's. The analysis took account of the six industry groups used in the USTA Report, the BLI weightings within each industry group, the weightings of the industry-group BLI's in developing the final averages, and of the finite universe effect whereby dispersion tends to zero when a sample enlarges to exhaust the universe.

For each industry group (i-1, i-2, ... i-6) a variance was calculated for the set of BLI_j's (j-1, N_i) observed for the group, N_i being the number of Plans in the Godwins database for industry group i. Weighted means were used in the USTA study, and the variance for the weighted mean for industry group i was calculated as the variance of the observed BLI_j's times the sum of the squares of the weights based on participant counts in the plans included in the industry group. The Godwins database has information for substantial percentages of covered employees in each industry group. The total number of plans in each industry group, T_i, was taken as the number of plans in the Godwins database for the industry group, N_i, times the ratio of covered employment for the industry group in the economy (a GAO figure) to the covered employment included in the Godwins database for the industry group. A standard adjustment factor of $(T_i - N_i) / (T_i - 1)$ was applied to account for the "finite universe effect".

Godwins

The estimate of the variance of the means was taken as the sum of the products of the square of the "GAO weights" times the estimates of the industry-group variances. The square root of the estimate is the measure of the dispersion of the means. Numerical results from the calculations are summarized on the chart attached hereto. We see that pre-65 and post-65 dispersions are minor when contrasted to their corresponding means.

Calculation of "Standard Error" of Average BLI's
(Results)

Industry Group number:	(1)	(2)	(3)	(4)	(5)	(6)	Total
Number of Plans in GODWINS' database:	446	6	78	31	222	47	830
Number of Employees covered by such Plans:	11,129,686	94,893	1,472,589	1,884,054	3,549,719	780,402	18,911,343
Number of covered employees in economy (GAO):	11,602,872	562,891	8,853,209	3,962,734	10,431,800	3,040,556	38,454,062

Pre Age 65

	(1)	(2)	(3)	(4)	(5)	(6)	Total
Weighted mean BLI for group:	0.7232	0.7758	0.7974	0.4730	0.6721	0.5771	0.6898
Variance of BLI's in group:	0.049191	0.060456	0.041069	0.067315	0.040691	0.068032	
Variance of weighted mean for group:	0.000711	0.028462	0.002895	0.006361	0.000747	0.004062	
Variance adjusted for Finite Universe effect:	0.000029	0.024396	0.002419	0.003379	0.000494	0.003035	0.000227

Dispersion of weighted mean:	0.015076
Mean + 1 standard deviation:	0.7049
Mean - 1 standard deviation:	0.6747

Post Age 65

	(1)	(2)	(3)	(4)	(5)	(6)	Total
Weighted mean BLI for group:	0.2340	0.0604	0.2643	0.0603	0.1926	0.1267	0.2008
Variance of BLI's in group:	0.019851	0.022000	0.011883	0.011052	0.015966	0.018178	
Variance of weighted mean for group:	0.000287	0.010357	.000838	0.001044	0.008293	0.001085	
Variance adjusted for Finite Universe effect:	0.000012	0.008878	0.000700	0.000555	0.000555	0.000811	0.000065

Dispersion of weighted mean:	0.008080
Mean + 1 standard deviation:	0.2089
Mean - 1 standard deviation:	0.1927

Godwins

Appendix B

Average Age / Average Service for Mature Populations

Promulgated from Varying Turnover and Retirement Assumptions

| | <----- Average Age -----> | | | | | | | | |
| | <--- T2 ---> | | | <--- T6 ---> | | | <--- T10 ---> | | |
Age of New Hires	RA 62	RA 63	RA 64	RA 62	RA 63	RA 64	RA 62	RA 63	RA 64
25	39.94	40.35	40.76	36.96	37.24	37.53	31.02	31.09	31.16
26	40.75	41.16	41.58	37.88	38.18	38.48	32.16	32.23	32.31
27	41.54	41.96	42.38	38.80	39.11	39.42	33.29	33.38	33.47
28	42.32	42.74	43.17	39.71	40.02	40.34	34.43	34.53	34.63
29	43.08	43.51	43.94	40.60	40.93	41.26	35.56	35.68	35.79
30	43.83	44.27	44.70	41.48	41.81	42.16	36.70	36.82	36.95
31	44.57	45.01	45.45	42.34	42.69	43.04	37.82	37.96	38.11
32	45.29	45.74	46.18	43.19	43.55	43.91	38.94	39.10	39.26
33	46.00	46.45	46.90	44.02	44.39	44.77	40.05	40.22	40.40
34	46.69	47.14	47.60	44.84	45.22	45.60	41.14	41.34	41.53
35	47.36	47.82	48.28	45.64	46.03	46.43	42.22	42.43	42.64

| | <----- Average Service -----> | | | | | | | | |
| | <--- T2 ---> | | | <--- T6 ---> | | | <--- T10 ---> | | |
Age of New Hires	RA 62	RA 63	RA 64	RA 62	RA 63	RA 64	RA 62	RA 63	RA 64
25	14.94	15.35	15.76	11.96	12.24	12.53	6.02	6.09	6.16
26	14.75	15.16	15.58	11.88	12.18	12.48	6.16	6.23	6.31
27	14.54	14.96	15.38	11.80	12.11	12.42	6.29	6.38	6.47
28	14.32	14.74	15.17	11.71	12.02	12.34	6.43	6.53	6.63
29	14.08	14.51	14.94	11.60	11.93	12.26	6.56	6.68	6.79
30	13.83	14.27	14.70	11.48	11.81	12.16	6.70	6.82	6.95
31	13.57	14.01	14.45	11.34	11.69	12.04	6.82	6.96	7.11
32	13.29	13.74	14.18	11.19	11.55	11.91	6.94	7.10	7.26
33	13.00	13.45	13.90	11.02	11.39	11.77	7.05	7.22	7.40
34	12.69	13.14	13.60	10.84	11.22	11.60	7.14	7.34	7.53
35	12.36	12.82	13.28	10.64	11.03	11.43	7.22	7.43	7.64

Appendix C

Additional Sensitivity Analysis

Extreme Parameter Values Leading to Low Estimates
of the Percentage of Additional SFAS 106 Costs
to be Met from Other Sources

Additional SFAS 106 Costs of
Average Employer with SFAS 106 Liabilities

Labor Supply Elasticity	|<----- 2% ----->|			|<----- 3% ----->|			|<----- 5% ----->|		
	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)
0.0	0.9	12.0	87.1	2.0	17.5	80.5	5.4	27.5	67.1
0.1	3.9	10.0	86.1	6.4	14.6	79.0	12.5	22.8	64.7
0.2	6.7	8.1	85.2	10.6	11.8	77.6	19.4	18.3	62.3
0.3	9.4	6.4	84.2	14.6	9.1	76.3	26.0	13.9	60.1

(a) reflected in GNP-PI
(b) financed by potential reduction in the wage
(c) to be met from other sources

price elasticity of demand = 3.0
share of labor costs in total cost in sector 1 = 0.78
share of labor costs in total cost in sector 2 = 0.78
initial fraction of labor employed in sector 2 = 0.4

Godwins

Best Estimate Increases

TELCO's Unrecovered SFAS 106 Costs

March 1993

By Randy Cosby

New Findings Prove Strength of Original Request

More than 87% of the cost of adopting the SFAS 106 accounting procedure will not be recovered by local exchange carriers subject to federal price caps (Price Cap LECs) without exogenous treatment, according to a "best estimate" prepared by Godwins for the United States Telephone Association (USTA).

The best estimate, and an expanded sensitivity analysis showing 648 potential scenarios that could change the amount of SFAS 106 costs recovered by Price Cap LECs, were requested by the Federal Communications Commission. (See the FCC's Jan. 22, 1993 Order in CC Docket No. 92-101, paragraphs 63 and 64).

The best estimate shows that only 0.3% of the costs are reflected in the GNP price index and 12.3% might be recovered by a reduction in the wage rate and other macroeconomic adjustments, leaving more than 87.3% of the costs unrecovered.

The finding underscores the conservative nature of the Price Cap LECs' request for exogenous treatment made last year. In that request, which was based on a study by Godwins, exogenous treatment was sought for only 84.8% of the costs of SFAS 106 -- 2.5 percentage points less than the best estimate now clearly indicates is reasonable.

The earlier calculation estimated that 0.7% of the costs would be recovered in the price index and 14.5% might be recovered by a reduced wage rate.

Given the philosophy followed in the Godwins study, it should come as no surprise that the best estimate is higher than the original estimate cited in the study. The study generally used conservative values when setting parameters for the actuarial and macroeconomic analyses used to gauge the impact of SFAS 106 on TELCO, a composite company constructed to more easily quantify statistics compiled from the 11 Price Cap LECs.

At every juncture, Godwins used values that avoided giving unwarranted benefits to TELCO. The intent was to avoid potential claims of double-counting by erring in the direction least favorable to Price Cap LECs.

For example, in the macroeconomic model Godwins overstated the impact on GNP-PI by using a baseline value of price elasticity of demand that is almost certainly too high. When this value was reduced to a more likely level for computation of the best estimate of recovery, it reduced the amount of costs TELCO would recover through the GNP-PI and other macroeconomic effects.

A similar result occurred when Godwins overstated a value for labor supply elasticity which, like price elasticity of demand, is among several economic parameters used to determine how much of SFAS 106 costs will be recovered through the GNP-PI.

The study's conservative bent also is shown in the actuarial analysis by use of a 3% figure to quantify the direct impact of SFAS 106 on labor costs for the portion of the economy that includes businesses providing post-retirement benefits. The best estimate places this value at 2.5%, fully a half-percent lower than

- 2 -

the conservative estimate.

It is with a firm belief in the Godwins study, and with steadfast support for the actuarial and macroeconomic analyses on which the study is based, that the 84.8% estimate used by the Price Cap LECs in their filings last year, is reaffirmed.

Conservative Estimate Is Built On Sound Foundation

The conservative estimate developed by Godwins in this study is built on a firm foundation composed of an actuarial analysis, as well as a macroeconomic analysis that uses parameters derived from the actuarial study.

Using extensive demographic, economic and benefit program data collected from 11 Price Cap LECs, the actuarial analysis constructs TELCO, a composite company that closely reflects the entire industry's characteristics.

When compared to the average employer in the economy, the effects of SFAS 106 on TELCO's costs are disproportionately higher due to a combination of factors. Its work force stays on the job longer, retires earlier, has a higher ratio of retired-to-active workers and has a higher proportion of covered workers.

The situation is offset somewhat by the fact that TELCO's labor costs are a lower percentage of total costs than of the average employer in the GNP.

Given these circumstances, the average employer in the economy will experience only 28.3 percent of the cost increase from SFAS

106 that will hit TELCO.

Among the steps taken to obtain the results:

* A comparison of TELCO's benefits program to a "national average" benefit program developed through the use of a database of provisions of retiree medical plans sponsored by 830 private-sector companies employing 19 million workers, which is well over half of all covered employees in the United States.

* Adjustments for differences in programs and other factors, such as the average age of employees, length of service, retirement patterns, number of retirees and current level of pre-funding of benefits.

The actuarial analysis also utilizes a number of factors to develop a formula that quantifies the direct impact of SFAS 106 on labor costs for the portion of the economy that includes businesses providing post-retirement benefits. The best estimate places this value at 2.5%, fully half a percentage point lower than the 3% conservative estimate used in the Godwins study.

Through its examination of the impact of SFAS 106 costs on the economy as a whole, the macroeconomic analysis divides the 95.8 million private-sector workers in the national economy into two groups. They are:

* Sector 1: An estimated 65.1 million workers who have no post-retirement plan covered by SFAS 106 rules; and

* Sector 2, an estimated 30.7 million workers eligible for some type of retirement plan, the cost of which ultimately will be

- 4 -

reflected in SFAS 106 costs.

The macroeconomic model also finds that only 2.3% of the average employer's additional costs resulting from SFAS 106 is passed through to the GNP price index. Consequently, TELCO stands to recover only .7% through the GNP-PI because the actuarial analysis finds the price index will reflect only 28.3% of the additional costs incurred by the average Price Cap LEC due to SFAS 106.

Although it first appears that this means 99.3% of TELCO's additional costs are unrecoverable, the macroeconomic analysis determines that the national wage rate might be 0.93% lower than it would have been in the absence of SFAS 106.

Consequently, if TELCO can achieve a similar reduction in its wage rate, another 14.5% of SFAS 106 costs could be recovered, lowering its total unrecovered costs to the conservative estimate of 84.8% that is being sought for exogenous treatment.

Some Outcomes Are Not Realistically Conceivable

As explained in the original Godwins study, the macroeconomic model for determining how much of the SFAS 106 costs are unrecoverable can, by adjusting the values of its parameters, be used to obtain numerous possible outcomes.

Godwins attempted to display the sensitivity of the results in

- 5 -

its original study by showing an extremely wide range of possible outcomes--as well as the conservative estimate believed to be a reasonable basis for exogenous treatment.

However, the Commission subsequently requested, and now has been provided, all 648 estimates, as well as an overall best estimate.

This list shows all outcomes associated with all "possible" parameter values. But it must be understood that results at either end of the spectrum are based on extreme values and simply are not realistically conceivable.

That is the case with at least three of the parameter values which show more than 40% of costs being recovered through GNP-PI and macroeconomic adjustments. This occurs because any attempt to display every combination of parameter values requires some of those values to be set at levels needed simply to fill out the "grid" of possibilities.

For example, the outcomes in question are based on unrealistic values for:

-- Price elasticity of demand. The flawed combinations of parameters use a value of 3.0, which is much too high to be plausible. The baseline calculation purposely uses a value of 1.5 that is too high in order to guard against the possibility of understating the impact of SFAS 106 on GNP-PI. The true value almost surely is less than 1.0.

-- The direct impact of SFAS 106 on labor costs in sector 2,

- 6 -

the segment of the economy encompassing covered workers. The 4.5%
value applied here is much too high, as evidenced by the 2.5% value
used to develop the best estimate and the 3% value used in Godwins
original conservative estimate.

The foregoing is why all of the combinations of parameter
values that show less than 60% of additional SFAS 106 costs being
recovered without exogenous treatment simply are not worthy of
consideration.

-

UNITED STATES TELEPHONE ASSOCIATION

ANALYSIS OF IMPACT OF SFAS 106 COSTS ON GNP-PI

ADDITIONAL SENSITIVITY ANALYSIS

March 31, 1993

Godwins